

Title (en)
Process for improving efficiency of DNA amplification reactions

Title (de)
Verfahren zur Verbesserung der Effizienz von DNS-Amplifizierungsreaktionen

Title (fr)
Méthode pour améliorer l' efficence des réactions d'amplifications de l'ADN

Publication
EP 1491637 A1 20041229 (EN)

Application
EP 03291540 A 20030624

Priority

- EP 03291540 A 20030624
- CA 2433141 A 20030623
- JP 2002003912 A 20020110

Abstract (en)

Improving (M1) efficiency of DNA amplification reaction involves binding a compound such as LCRed 705, an amino group, phosphate, a biotin, Texas-Red, rhodamine X, rhodamine X isothiocyanate, a rhodamine, LCRed640, a mercapto group, psoralen, cholesterol, tetra chloro fluoresceine, cy3, cy5, an oligonucleotide having 2 or more bases with a G+C content of 15% to the 5' terminal of the primer. Improving (M1) efficiency of DNA amplification reaction involves binding a compound such as LCRed 705, an amino group, phosphate, a biotin, digoxigenin, dinitrophenyl, carboxy tetra methyl rhodamine, Texas-Red, rhodamine X, rhodamine X isothiocyanate, a rhodamine, LCRed640, a mercapto group, psoralen, cholesterol, fluorescein isothicyanate/6-carboxy fluorescein, tetra chloro fluorescein, cy3, cy5, 4,4-difluoro-5-styryl-4bora-3a,4a-diaza-s-indacene-3-propionic acid, succinimidyl ester (BODIPY564/570), 4,4-difluoro-5,7-diphenyl-4-bora-3a,4a-diaza-s-indacene-3-propionic acid, succinimidyl ester (BODIPY530/550), 4,4-difluoro-5-(4-phenyl-1,3-butadienyl)-4bora-3a,4a-diaza-s-indacene-3propionic acid, succinimidyl ester (BODIPY581/591) and an oligonucleotide having 2 or more bases with a G+C content of 15% to the 5' terminal of the primer. An independent claim is included for improving specific binding of DNA to an oligonucleotide.

IPC 1-7
C12Q 1/68

IPC 8 full level
C12N 15/09 (2006.01); **C12Q 1/68** (2006.01)

CPC (source: EP US)
C12Q 1/6832 (2013.01 - EP US); **C12Q 1/6853** (2013.01 - EP US); **C12Q 1/686** (2013.01 - EP US)

Citation (search report)

- [X] WO 02057487 A2 20020725 - AMERSHAM BIOSCIENCES UK LTD [GB], et al
- [X] WO 0194638 A2 20011213 - APPLERA CORP [US]
- [A] WO 0149880 A2 20010712 - QIAGEN GMBH [DE], et al
- [A] WO 9924452 A2 19990520 - ISIS PHARMACEUTICALS INC [US], et al
- [A] WO 9845479 A1 19981015 - ALBANY MEDICAL COLLEGE [US]
- [A] US 2003039992 A1 20030227 - CHAKRABARTI RAJ [US], et al
- [A] EP 1138785 A2 20011004 - CANON KK [JP]
- [X] LIU QIANG ET AL: "Overlapping PCR for bidirectional PCR amplification of specific alleles: A rapid one-tube method for simultaneously differentiating homozygotes and heterozygotes", GENOME RESEARCH, vol. 7, no. 4, 1997, pages 389 - 398, XP002259043, ISSN: 1088-9051
- [T] DATABASE CA [online] CHEMICAL ABSTRACTS SERVICE, COLUMBUS, OHIO, US; KOIZUMI, TAKESHI ET AL: "Improving DNA amplification and hybridization efficiency by attaching compounds or oligonucleotide to primer", XP002259044, retrieved from STN Database accession no. 139:96316 & JP 2003199568 A 20030715 - NICHIREI KK

Cited by
EP1896602A4; EP1896602A1

Designated contracting state (EPC)
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PT RO SE SI SK TR

DOCDB simple family (publication)
US 2004110182 A1 20040610; CA 2433141 A1 20041223; EP 1491637 A1 20041229; JP 2003199568 A 20030715

DOCDB simple family (application)
US 60171303 A 20030620; CA 2433141 A 20030623; EP 03291540 A 20030624; JP 2002003912 A 20020110